

CLAIMS

1. An automatic apparatus (1) for dispensing voluminous and/or heavy products (2) and/or products sold in packs, consisting of at least one box (10) comprising at least one storage unit (30) for said products (2) structured in tiers and equipped with a means (40) for advancing at least one product (2) towards at least one transfer zone (50), a transfer means (51) provided in said transfer zone (50) for receiving on a flat plane said product (2) which is pushed by said advancement means (40) and to transport it from the storage unit (30) towards at least one outlet orifice (60), a means (61) for blocking said outlet orifice (60) which in the closed position prevents access to the interior of said storage unit (30) and in the open position allows said product (2) to exit, an anti-vandalism means (56, 73) to prevent access to the interior of said storage unit (30) when the blocking means (61) is in the open position, and a means for controlling the unit.
2. A dispensing apparatus according to claim 1 characterized in that it comprises a thrusting means (70) to evacuate said product (2) outside said box (10) through said outlet orifice (60) and in that the blocking means comprises at least one trap door (61) connected to an actuation means (65) controlled by said thrusting means (70) in order to open said trap door (61) to permit said product (2) to exit and to close it after the product has left.
3. A dispensing apparatus according to claim 1 characterized in that it comprises a payment means (21) and/or selection means (22) for at least one of said products (2) contained within said dispensing apparatus (1)
4. A dispensing apparatus according to claim 1 characterized in that the tiers in said

- storage unit (30) consist of superimposed fixed platforms (31) each able to receive at least one row of products (2).
5. A dispensing apparatus according to claim 4 characterized in that each fixed platform (31) is designed to hold several rows of products (2) arranged side by side and separated by guide means (32).
 6. A dispensing apparatus according to claim 4 characterized in that said advancement means (40) is designed to push at least one row of products (2).
 7. A dispensing apparatus according to claim 6 characterized in that each row of product (2) comprises advancement means (40).
 8. A dispensing apparatus according to claim 6 characterized in that the advancement means are common to several rows of products (2).
 9. A dispensing apparatus according to claim 6 characterized in that the advancement means (40) comprises at least one motor (41, 41') connected through at least one transmission (42, 43, 42' 43') to a pushing means (44) designed to push said corresponding row of products (2).
 10. A dispensing apparatus according to claim 4 characterized in that each fixed platform (31) comprises a surface for rolling.
 11. A dispensing apparatus according to claim 4 characterized in that each fixed platform (31) is slightly inclined toward the rear opposite said transfer zone (50).
 12. A dispensing apparatus according to claim 1 characterized in that the transfer means (51) comprises at least one motor (52) connected to a movable platform (53) through at least one transmission (54, 55, 54' 55') in order to displace said movable platform (53) to the inside of said transfer zone (50) in front of the fixed platforms (31)

- of the storage unit (30) along guides integral with said box (10).
13. A dispensing apparatus according to either claim 9 or 12 characterized in that the transmission is selected from the group comprising at least a rack and pinion, and endless screw and bolt, a chain and pinion, or a belt and pulley system.
14. A dispensing apparatus according to claim 12 characterized in that the movable platform (53) defines a plane inclined toward the front facilitating the separation of said product (2) pushed by the advancement means (40) from the row of remaining products.
15. A dispensing apparatus according to claim 12 characterized in that said movable platform (53) comprising a surface for rolling.
16. A dispensing apparatus according to claim 4 characterized in that the fixed platforms (31) in the storage unit (30) comprise in the front a downwardly inclined ramp (34) for pushing said product (2) held by said movable platform (53) onto the platform when it is displaced downward.
17. A dispensing apparatus according to claim 16 characterized in that the inclined ramps (34) decrease in length from the upper platforms to the lower platforms.
18. A dispensing apparatus according to claims 4 and 12 characterized in that the movable platform (53) comprise a fixed base (53a) and a movable plate (53b), with a recall device (53c) disposed between them, and in that the inclined ramps (58) integral with the box (10) and located on the trajectory of the transfer means (51) opposite the fixed platforms (31) in the storage unit (30) are designed to cooperate with said movable plate (53b) by moving it closer to the storage unit (30) and facilitating removal of the product (2).

19. A dispensing apparatus according to claim 18 characterized in that the angled ramps (58) decrease in depth from the top to the bottom of the transfer zone (50).
20. A dispensing apparatus according to claim 12 characterized in that the transfer means (51) comprises a plate (56) located in the upper portion of the movable platform (53), at a sufficient distance to allow said product (2) to be loaded between the plate and the movable platform (53) and at least partially constituting said anti-tampering means.
21. A dispensing apparatus according to claim 1 characterized in that the outlet orifice (60) is located in the lower portion of said box (10) and it comprises a sliding platform (62) outside said box (10) equipped with at least one ramp inclined towards the floor.
22. A dispensing apparatus according to claim 2 characterized in that the trap door (61) covers at least the surface of said outlet orifice (60) and the actuation means (65) comprises at least one actuator (66) connected to said trap door (61) designed to displace it parallel to itself between the open and closed positions.
23. A dispensing apparatus according to claim 2 characterized in that the pushing means (70) comprises at least one actuator (71) connected to a pushing device (73) defining at least one contact surface for entering into contact with said product (2) to be discharged.
24. A dispensing apparatus according to claim 23 characterized in that the axis of the actuator (71) is generally parallel to the plane of the transfer means (51) and in that the contact surface of said pushing device (73) is flat and generally perpendicular to said plane.
25. A dispensing apparatus according to claim 23 characterized in that the pushing

- device (73) is designed to block said outlet orifice (60) when the trap door (61) is in the open position and constituting at least in part said anti-tampering means.
26. A dispensing apparatus according to claim 1 characterized in that said box (10) is isothermal.
27. A dispensing apparatus according to claim 26 characterized in that it comprises a thermal regulation means (3,4,5) for the interior space defined by said isothermal box (10).
28. A dispensing apparatus according to claim 1 characterized in that it comprises a recycling container (80) adjacent to said box (10) equipped with at least one inlet orifice (81) for receiving empty packaging from said products (2).
29. A dispensing apparatus according to claim 28 characterized in that said inlet orifice (81) comprises a trap door access (82) that moves between a closed position and an open position.
30. A dispensing apparatus according to claim 29 characterized in that the trap door access (82) is connected to an actuator (83) controlled by said regulating means.
31. A dispensing apparatus according to claim 28 characterized in that the recycling container (80) comprises means for compacting said empty packaging.